**13CE3107 - Environmental Studies**

**(Common to All Branches)**

Lectures / Week: 4 Hrs Sessional Marks: 40

Univ. Exam: 3Hrs Univ. Exam. Marks: 60

**UNIT – I**

**Introduction:**

Definition, Scope and Importance of Environmental studies, Environmental components.

Ecosystem: Introduction, types, characteristics, features, structure and functions of Ecosystems

Bio-diversity and its conservation- Value of bio-diversity consumptive and productive use, social, ethical, aesthetic and option values. Threats to biodiversity- Conservation of bio diversity.

**UNIT – II**

**Environment and Natural Resources Management**:

1. Land Resources and its importance, Land degradation, Soil erosion and desertification, Effects of modern agriculture, fertilizer and pesticide problems.
2. Forest Resources: Use and over- exploitation - Mining and dams- their effects on forest and tribal people.
3. Water Resources: Use and over- utilization of surface and ground water, Floods and droughts, Water logging and salinity, Conflicts over water sharing, Rain water harvesting, clouds seeding and watershed management.
4. Energy resources Energy needs: Renewable and non-renewable energy needs use of alternate energy sources, Impact of energy use of environment

**UNIT – III**

**Environmental pollution**:

Local and global issues, Causes, Effects and control measures of Air pollution, Water Pollution, Soil pollution, Marine Pollution, Noise pollution.

Solid waste management: Composting, Vermiculture- Urban and industrial Wastes, recycling and reuse. Nature of Thermal pollution and nuclear hazards, Global warming, Acid rain, Ozone depletion.

**UNIT – IV**

**Environmental problems in India**:

Drinking water, Sanitation and public health. Effects of urbanization, transportation, Industrialization on the quality of environment, Green revolution.

Economy and Environment: The econmy and enviornmnet interaction, Sustainability, Environment Impact Assessment, Social Issues.

**UNIT – V**

**Environmental Acts:**

Water (Prevention and control of pollution) Act- Air (Prevention and control of pollution) Act - Environment protection Act, Wildlife protection Act, Forest conservation Act, Coastal Zone Regulations

**Case Studies:** Silent Valley Project, Madhura Refinery and Taj Mahal, Tehri Dam, Kolleru Lake Aquaculture, Fluorosis in Andhra Pradesh

**Field Work**: Visit to Local Area having river/ Forest/grass land/hill/mountain to document and environmental assets.

Study of local environment- common plants, insects, birds. Study of simple ecosystems- pond, visits to Industries, water treatment plants, effluent treatment plants.

TEXT BOOKS:

1. Environmental science by Anubha Kaushik and C.P. Kaushik
2. Environmental science and Engineering by P. Anandan and R.Kumaravelan

REFERENCES BOOKS:

1. Introduction of Envioromental Science by Y. Anjaneyulu
2. Environmental studies by Dr.B.S. Chauhan
3. Environmental Science by M Chandra Sekhar